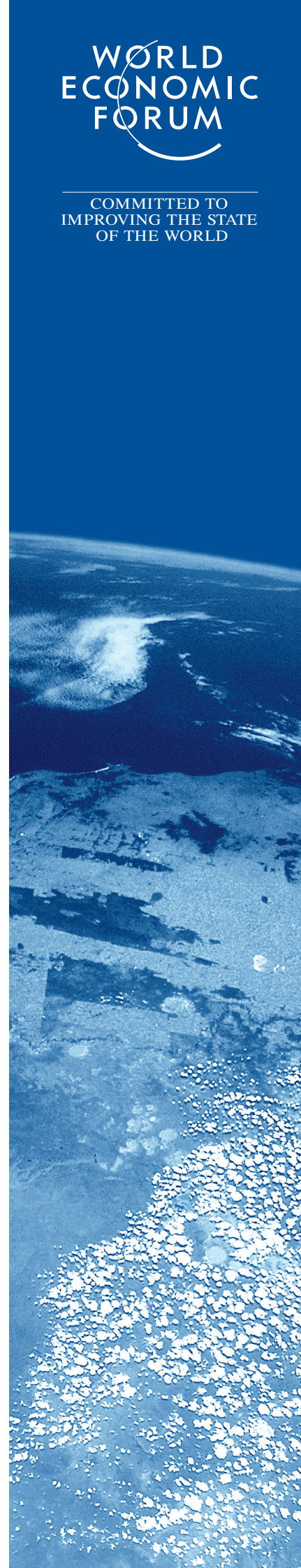


# Europe@Risk



## A Global Risk Network Briefing



*All the figures are prepared by PricewaterhouseCoopers for the Global Risk Network of the World Economic Forum.*

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# Foreword

This report examines the global risks most pertinent to Europe, Russia, Eastern Europe, Turkey and Central Asia relating to four areas: economic slowdown, energy security, demographic shifts and education. Based on the framework developed by the Global Risk Network of the World Economic Forum, which tracks a selected set of risks over a 10-year time horizon, the report considers how interrelated these areas are and how the related risks might impact all or parts of the region.

As the report was being prepared, the financial crisis that began with the collapse of the sub-prime mortgage market in the US in 2007 had reached a critical point. Figures for Western Europe show that it is officially in recession and US figures indicate that it is also heading for one. While at this point there appears to be consensus that the effects of the crisis will be felt globally, there is still a very high level of uncertainty about the full extent, duration and longer term consequences of this crisis for both developed and emerging economies. Though the last few decades have all seen financial crises in different regions and sectors, the acceleration of global integration over the past 10 years lends this crisis a new dimension. Europe, Russia, Turkey and Central Asia might all experience it differently but none of these countries will be able to isolate themselves from it. This economic situation puts a number of the region's challenges in new light. Slower or no growth, combined with tighter credit conditions, will impact consumer, corporate and government spending. The mitigation of many of the risks considered in this report requires considerable investment over the long term, be it in infrastructure, education or alternative energy.

## What are Global Risks?

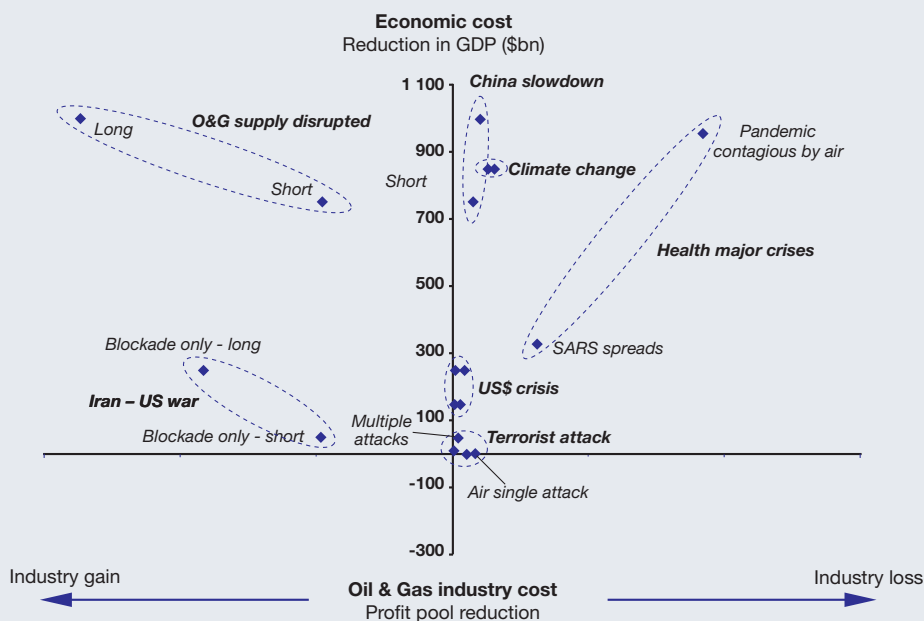
To constitute a global risk, an issue must have global scope, cross-industry impact; there must be uncertainty as to how the risk will manifest itself (with regard to the likelihood of occurrence and severity of impact).

### Our definition: non-business risks that affect business (i.e. not operational or project risk)

- They can be strategic, exogenous and systemic
- They are highly interdependent (i.e. do not themselves manifest in isolation)
- They are characterized by uncertainty, sharp discontinuities, non-linearity (power law distributions) and lack of proportionality
- They cannot be predicted (but can be managed)

Though the current economic situation clearly requires attention in the immediate term, the World Economic Forum's work on risk takes a 10-year time frame and thus this report considers risks to the region over that period and beyond. The issue summaries consider not only the risk implications but also the potential that government and business have to mitigate those risks and/or even generate opportunities on them. All of the countries discussed face a number of individual challenges but they also face a set of common challenges: the need to create and sustain growth; to reform fiscal regimes in light of changing demographics; to develop a more holistic approach to energy strategy; and to promote innovation and job creation by addressing skills gaps through existing and new educational models.

## Matrix of Impacts of Global Risk Events on the Oil and Gas Industry



Note: Assessments of impact are derived from a number of different global risk scenarios developed for the oil and gas industry by Marsh & McLennan Inc.

## About the Global Risk Network

This report builds on the existing work of the Global Risk Network of the World Economic Forum in tracking risks over a 10-year time horizon as presented in the annual Global Risk report produced in collaboration with Citi, MMC, Swiss Re, Zurich Financial Services and the Wharton Risk Center.

The Global Risk Network is composed of an unparalleled network of industry, risk and country experts who work with business leaders and policy-makers to:

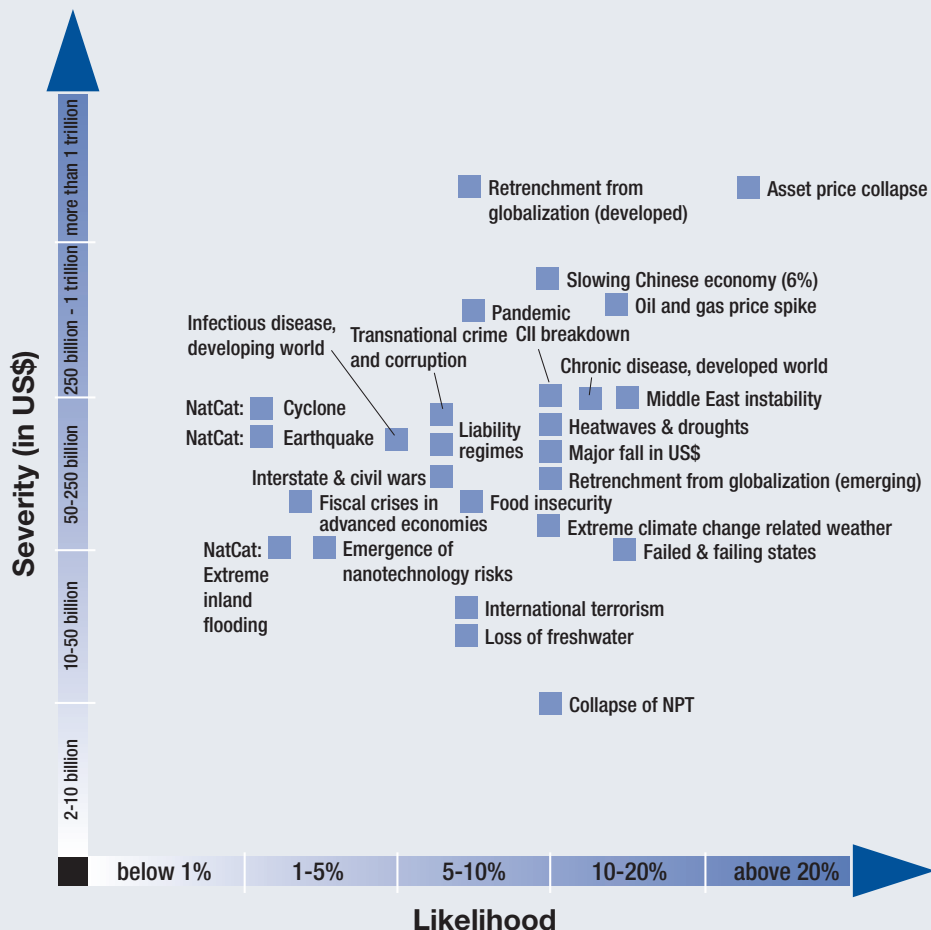
- Create a framework for assessing and prioritizing existing and emerging risks to global business over the short and long term
- Explore the interconnections among different types of risk and consider the strategic implications
- Alert key decision-makers to the impact these risks might have on their environment
- Assist leaders in their reflection on how risks may be mitigated at the global, regional, industry and company level
- Transform aspects of global risks and their mitigation into business opportunities

Risks classified in the report have global scope and cross-industry impact and are characterized by *uncertainty* as to how the risk will manifest itself (with regard to the likelihood of occurrence and severity of impact).

The Global Risk Network has identified 26 core global risks to the international community over the next 10 years. These core global risks have been assessed in terms of likelihood and severity (see Figure below).

A more detailed description of the core global risks can be found in the Global Risks 2008 report, published for the World Economic Forum Annual Meeting 2008 (available at <http://www.weforum.org/en/initiatives/globalrisk>).

### The 26 Core Global Risks: Likelihood with Severity by Economic Loss



## Executive Summary:

### Economic Slowdown

What are the effects of the global financial crisis on the region's real economy?  
What institutional adjustments are required to tackle the current economic slowdown?

#### Risk

- **Global financial crisis:** Confidence in the financial sector and among lenders has declined to record lows. This lack of confidence and the high level of uncertainty are resulting in liquidity problems for banks and financial institutions, and very tight credit conditions for commercial and private borrowers. The financial crisis is already affecting the real economy at a high level and the risk of a deep and prolonged recession is growing.

#### Important Trends

- **Growth Outlook:** The latest figures from the IMF Global Outlook (October 2008) show a serious global downturn with projections for growth in European economies being particularly affected: e.g. Germany, no growth; UK -0.1%; France, 0.2%; Spain, -0.2). On the other hand GDP growth projections for Russia, Turkey, Central and Eastern Europe, and the CIS are still positive, with 5.5%, 3.5%, 3.4% and 5.7% respectively.
- **Inflation:** 2008 inflation rates for Central Asia and the Caucasus are expected to reach 10%; in Eastern Europe, 9.7% and Western Europe, 3.4%, placing additional pressure on growth and employment. The outlook for 2009 is that inflation is expected to fall slightly across most economies.
- **The role of central banks:** Maintaining inflation and ensuring long-term fiscal sustainability – including healthcare and pension schemes – is a major challenge for all monetary institutions. In addition, the financial crisis has forced them to move to restore confidence by taking steps to prevent further bank failures. Though the ECB and EU are attempting to develop a coordinated response to the financial crisis, individual governments have taken their own measures rendering this more difficult.
- **Financial system:** Several leading European banks have had to be rescued, suggesting that the European financial system is equally exposed to this crisis. At the time of going to press, uncertainty runs very high as to the exact number of financial institutions that might still be affected. Bank financing has tightened to a record level and strong measures will be required to restore confidence. Sharp and rapid declines in equity prices have increased the cost of raising capital. The cost of borrowing has increased in emerging markets and there has been some retrenchment from them as investors lose confidence and need to sell assets to raise cash.
- **High economic uncertainty:** Growth and uncertainty of unemployment, potential volatility of major currencies, market instability and bank losses all contribute to protectionist pressures and set an environment of extreme uncertainty.

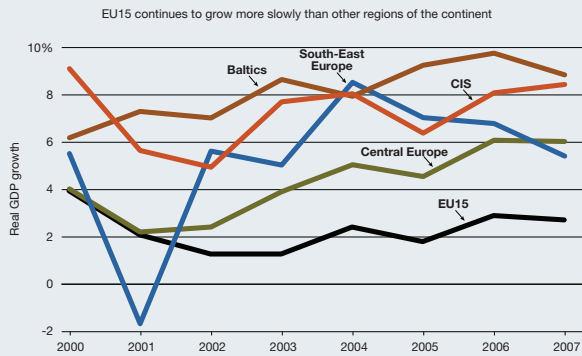
“The delivery of price stability over the medium term is the best contribution that monetary policy can make to sustainable economic growth, job creation and prosperity.”

Jean-Claude Trichet, President,  
European Central Bank

#### Implications

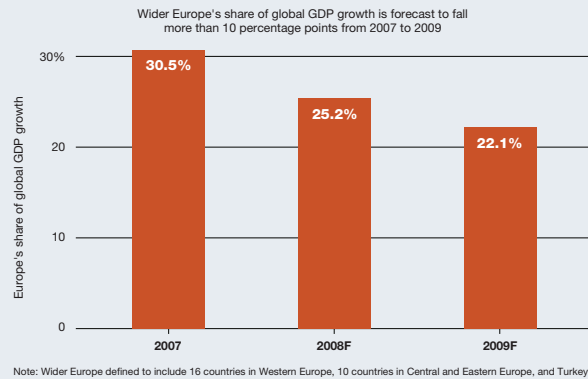
- **EU15:** The direct trade effect of a sharp slowdown abroad is likely to have a severe impact because of the high trade openness of the region. Risk repricing and portfolio rebalancing affect risk-taking attitudes and are already having a negative impact on investment in the region.
- **Russia:** Russia's economy is robust. With 7.5% year-on-year growth in the second quarter of 2008 and growth of 5.5% projected for 2009, Russia has the third-largest foreign exchange reserves globally (US\$ 500 billion), low international debt, a huge resource-fuelled trade surplus and nearly US\$ 200 billion in sovereign wealth funds. But stock market indices accumulate significant losses and an estimated US\$15 billion of foreign capital left the country over the past six months.
- **Emerging Europe:** Structural reforms have boosted growth and enhanced productivity across the region. Growth rates have been high in recent years and an adjustment is expected in the coming periods. Current account deficits and high levels of external debt raise the risks of a hard landing. High dependence on foreign capital amplifies external vulnerability.

## European Economic Growth



Source: IMF

## Europe's Contribution to Global Growth



Source: PwC forecasts

- **Central Asia and the Caucasus:** The transitional recession, the emergence of inequality and poverty affect regional living standards. Unemployment is an important element and affects the growth sustainability and welfare in many countries. The growth of the informal economy and migration has important implications for labour markets and the welfare state.
- **Regional consumption and investment patterns:** Increased borrowing costs, the financial sector crisis and persistent above-target inflation across the region affect investment and consumption decisions and lower total consumer spending. The credit crunch, financial market losses and uncertainty create even further tensions on market confidence, generating more fear.

## Mitigation

- **Financial system:** Strong policies will be necessary to restore confidence and improve transparency are required. Further reforms to guarantee financial system stability need to be put in place to enhance supervisory oversight and risk management as well as monitoring leveraged positions.
- **Enabling trade:** Sweden, Norway, Denmark, Finland and Germany are the top five European countries on the World Economic Forum's Enabling Trade Index. The Kyrgyz Republic, Uzbekistan, Tajikistan and the Russian Federation are the countries of the region that appear at the bottom of the ranking. Further institutional reforms and infrastructure investment are required to promote trade and, hence, growth.

“ Today, the centre of our attention will be global changes in the financial systems, on commodities and food markets. And, likewise, economic relations between various countries, including relations between the former leaders of international development, which are showing losses, and new players that are ensuring growing rates of economic growth. ”

Dmitry Medvedev, President of the Russian Federation

- **Emerging Europe:** Fiscal consolidation and further structural reforms will contribute to ease convergence. Increasing resources in tradable sectors will help reduce trade imbalances and increase the resilience of the region.
- **Central Asia and Caucasus:** The region is still facing the challenges of sustained stabilization and making further progress in privatization, liberalization and preservation of basic safety nets. Further improvements on infrastructure and basic social security systems are crucial.

## Examples

- **Turkey,** after a succession of boom and bust cycles, implemented fiscal, monetary and institutional reforms enabling the country to reach average growth of almost 7% during the period 2002-2007. The private sector has grown successfully attracting greater levels of foreign direct investment: from US\$ 1.1 billion in 1995 to US\$ 21.7 billion in 2007. The stock value of foreign direct investment currently stands at about US\$ 85 billion.
- **Poland** is the biggest economy of Eastern Europe and growth in the first quarter of 2008 has been at 6.1%. Overall growth for 2008 is expected to be around 3.9%, with a slight drop to 3.5% forecast for 2009. Unemployment rates have dropped dramatically (from 20% in 2003 to 10% in 2008).
- **Eastern Europe and Central Asia** are the top reformers in the World Bank's *Doing Business 2009* report for the fifth year in a row, showing that they are progressing with necessary reforms to improve their competitiveness.

## Executive Summary:

### Energy Security

How can the region manage the energy security challenges as demand grows?  
How can energy sustainability be improved in the region?

#### Risk

- **Energy access and distribution:** Potential supply disruptions in the region could trigger tensions and even conflict. The energy supply chain is vulnerable. Combined with demand side pressures, incidents in one area might have knock-on effects on the wider region.
- **Evolution of commodity prices:** Prices in 2008 were nearly double the 2003 prices in real terms. Oil prices reached the maximum level at US\$ 147 per barrel in mid-July 2008. Energy prices in Europe rose by 70% year-on-year by February 2008, building up inflationary pressures and affecting household expenditure and private sector budgets. Though overall commodity prices have fallen recently, volatility remains high reflecting the level of uncertainty about the effects of a recession or prolonged downturn on demand and the potential for political risks creating supply side problems.

#### Important Trends

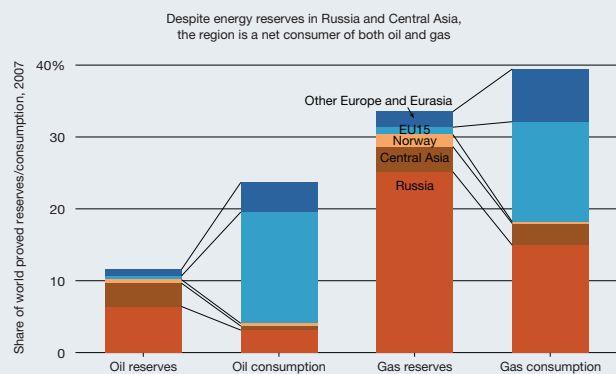
- **Energy consumption:** Global energy consumption is projected to increase by 50% from 2005 to 2030. Non-OECD countries total energy demand is expected to increase 85% by 2030, compared with an increase of 19% in the OECD countries, adding more pressure to existing energy sources. Fossil fuels are expected to continue supplying much of the energy consumed worldwide in the short run; its supply management is crucial for the geopolitical stability of the region. In the global context, the EU27 currently account for 16% of global energy demand. In 2007, Russia was the world's largest oil producer, at 12.4% of global oil production, though it is only the second largest exporter. For gas, it is both the world's biggest producer and exporter, with 21.5% of global production.
- **Energy supply prospects:** The region has a dominant energy producer in Russia, which in 2007 was the world's largest oil producer, at 12.4% of global oil production, though it is only the second largest exporter. For gas, it is both the world's biggest producer and exporter, with 21.5% of global production. The EU energy policy is to encourage investment in alternative energy sources. High energy prices have made certain alternatives more feasible on a cost-benefit basis. Investment in renewable sources of energy – wind and solar – is on the increase but remains low relative to investment in exploration, coal and nuclear. Biofuels, including ethanol and biodiesel, might become a more important part of the liquid supply mix, though there is a challenging debate on the subsidies received by this sector and the trade-off between land uses for biofuels vs food crops.
- **Reliance on imports:** Western Europe pays great attention to the security and geopolitical situation in the Caucasian and Central Asian states due to the oil and gas reserves in the region and the influence on the supply of energy in the short run. There is increasing energy import dependence in many countries; by 2030, 90% of oil and 80% of gas consumption in Europe is expected to be imported.
- **Central Asia and the Caucasus:** Oil and gas reserves have a vital geostrategic and economic importance for the whole region. These energy resources are essential to ensure future revenues and generate development and wealth in these countries, and are key in supplying energy to the European Union.

#### Implications

- **Ripple effect of commodity prices:** Energy price increases have an impact on production and transportation costs of other commodities such as food. Ultimately, higher food prices have the greatest impact on the poorer segments of society. Though the rising middle classes in emerging countries are increasing their spending power, discretionary spend is still low and food generally represents a relatively high percentage of their consumption basket.
- **Energy access and distribution:** Access to Eurasian energy to reduce European dependency on Middle East oil and Russian gas is at the centre of the European Union's strategy. The vulnerability of export routes across the Caucasus to the West can generate further conflict and supply shocks. The Nabucco gas pipeline, which will run from the Caspian region to Austria through Bulgaria, Romania and Hungary, is scheduled to be completed by 2013 but has encountered financing problems, strategic opposition and a lack of political will on the part of some states. Turkey is pursuing the idea of Iran supplying gas to Europe and has offered to mediate between the US and Iran. With access denied to Turkmen gas, Nabucco's viability becomes doubtful.

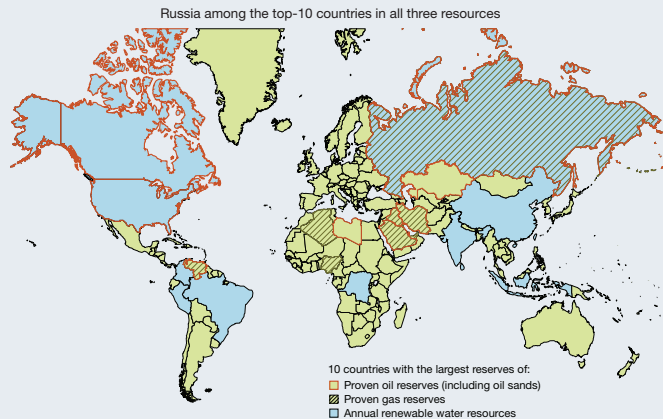


## Proved Oil and Gas Reserves (EIA)



Source: BP Statistical Review of World Energy 2008

## Oil, Gas and Water Endowments



Sources: BP; Pacific Institute

- **Gas pricing:** The US has openly warned that they would legislate against countries aligned behind a gas cartel. The EU is also resistant to the idea but high gas prices have weakened the European Union's negotiating position.
- **Geopolitical issues:** Kazakhstan, Uzbekistan and Turkmenistan are the greatest gas producing countries in Central Asia. Their negotiations with neighbouring countries and foreign energy corporations will have an impact on the regional energy supply.
- **Environmental sustainability:** If the EU can achieve planned reduction in its reliance on fossil fuels, it will cut greenhouse gas emissions and strengthen its energy security.
- **Vulnerability of the supply chain:** Energy supply is very vulnerable to geopolitical tensions around the world. The lack of investment in infrastructure weakens the country's position towards securing energy supply. More funding is crucial to pipe new power from wind or solar into the electricity network.

## Mitigation

- **Institutional capacity building:** A creation of a level playing field allows corporations in Russia and Western Europe to participate in the development of Eurasian energy resources.
- **Foreign policy:** Energy has long played a major role in foreign policy for both producer and importing states. As demand and competition for energy resources intensifies, importing countries will have to focus on promoting stable relations to build longer term arrangements, perhaps involving co-investments with key exporters in infrastructure or technology transfer agreements. Wherever possible, investing in the diversification of energy sources (creating an energy mix of fossil fuels, nuclear and renewables) will offer some protection from shocks to one or more supply sources.
- **European Union Common Policy:** The EU needs to intensify its efforts on a common EU energy policy that establishes a framework for member states on emission reductions, investment in renewable energy, efficiency measures and Carbon Capture and Storage (CCS).
- **Increase energy efficiency:** Efficiency improvement is a main challenge for all countries in the region. Cost-effective incentives to promote efficiency among consumers and industry are necessary to reduce consumption and improve energy and environmental security. Greater focus on public transport efficiency and industrial consumption is required.
- **Increase investment in technology:** More public-private partnerships (PPPs) would allow an increase in investment to move towards the next generation of technologies. Long-term incentives to generate an investment climate attractive for renewable energies would be beneficial to achieve sustainability targets and improve the energy mix.

## Examples

- The EU is working to reduce the effects of climate change and establish a common energy policy. By 2020 renewable energy should account for 20% of the EU's final energy consumption (8.5% in 2005).
- The EU27 is dependent on Russia for 25% of its gas and 25% of its oil. On the other hand, sales of raw materials to the EU provide most of Russia's foreign currency and contribute to over 40% of the Russian federal budget.

## Executive Summary:

### Demographic Shifts

A number of issues related to demographic trends need to be addressed now. For the majority of the region's nations, populations are ageing; for a few a youth bulge is emerging that poses other challenges. How will governments manage the related fiscal pressures and reform systems to mitigate risks from changing demographics?

### Risk

- **Ageing populations, in particular in Italy, Germany and the United Kingdom** result in increased fiscal pressures to finance pensions and health. For the EU27, the average old-age dependency ratio (the number of people 65 and over relative to those between 15 and 64) is projected to double to 54% by 2050, meaning that the EU will move from having four persons of working age for every elderly citizen to only two.
- **A decline in the size of active populations, as in the above countries but also in Russia, Poland, Hungary and several other European states**, will exacerbate these pressures.
- **Turkey's youth bulge:** Pressures to provide education and jobs to ensure growth and stability

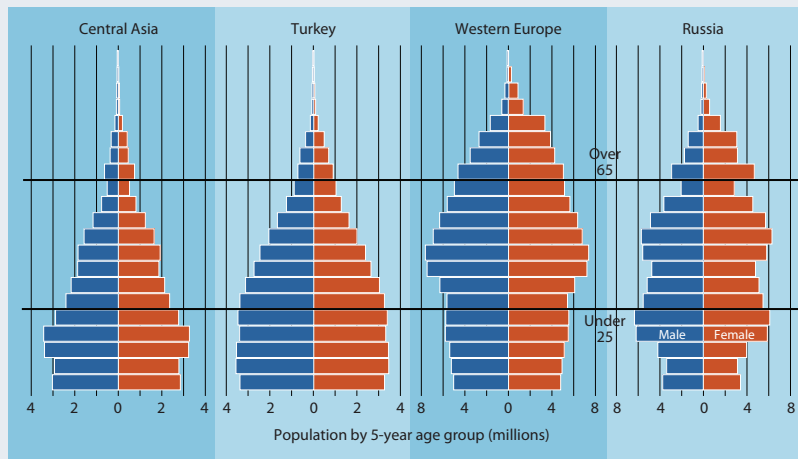
### Important Trends

- **Migration:** The population of the EU and the wider European region grew in 2007 by 3.5% to 822 million, of which the EU27 represent 497 million. However, over 80% of the population growth in the EU came from migration. The EU27 population has steadily increased since 1960, when it totalled just 400 million. As the birth rate falls and the baby boomer generation enters old age, there will be an overall decline in population, unless migration is allowed to compensate for the loss in natural population growth. Russia is already experiencing an acute decline in its population, with a decrease of approximately 200,000 people a year.
- **Ageing populations:** Though there have been scattered increases in fertility rates in some EU27 countries, the longer term trend is declining fertility rates coupled with longer life expectancy making the population pyramid more top heavy. Western and Eastern Europe will experience overall population decline and an increase in the percentage of the older population. Trends for Eastern Europe project that over 45% of the population will be over 60 by 2030. For the wider EU region, the number of young persons (aged 0–14) will drop by 18% by 2050. The working age population (15–64) will fall by 48 million, or 16%, whereas the elderly population aged 65+ will rise sharply, by 58 million (or 77%). The fastest-growing segment of the population will be the very old (aged 80+).
- **Turkey:** The country is an exception to the overall trend for the wider region, experiencing strong population growth and has the youngest population in the region, with over one-third of the population under 25. This youth bulge is expected to peak around 2030 before beginning to decline.

### Implications

- **Labour markets** need demographic balance to ensure competitiveness. Too many young people pose a challenge in terms of skills development and experience. Similarly, older workforces will require changes in the policy environment and business approach to compensation.
- **The role of migration:** To counterbalance declining populations, economies will become more dependent on migration. Labour and migration policies will need to be adjusted but governments will also have to address the perception of migration as a source of risk and the concerns about jobs being “lost” to immigrants. As migration policy is already a hotly debated issue in many countries, this issue may become even more acute as the need for labour rises over the next decade.
- **Pensions:** Public spending on pensions is currently above 10% of GDP in countries such as France, Germany and Italy where populations are ageing rapidly. This pattern is emerging in other countries. Pension reform will become increasingly urgent in countries where the systems are older. Newer systems may be less stressed but those countries might also experience rising levels of poverty among the older population. The age-dependency ration is also increasing.
- **Health:** Age-related healthcare spending averages between 5 and 6% for many of the EU15 and is as high as 7.9% in the United Kingdom. As studies show that the last years of life are often the most costly in terms of health costs, health budgets will remain under pressure.

Younger populations in Turkey and Central Asia



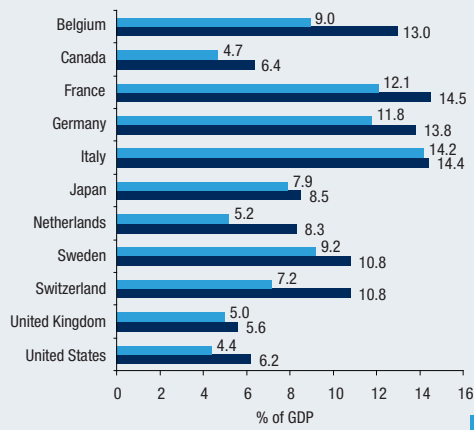
Source: United Nations (2006)

## Mitigation

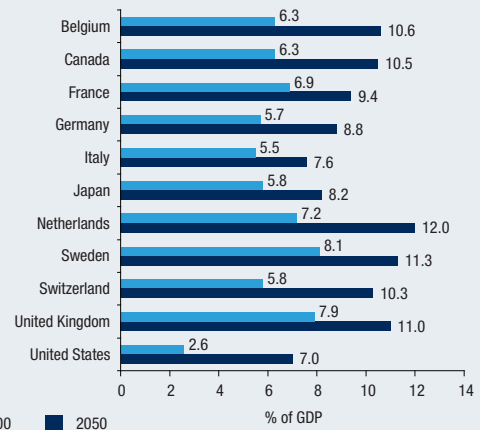
- **Migration:** A net inflow of about 40 million migrants is projected to enter the EU between now and 2050. However, this number will not offset low fertility and growing life expectancy. To maintain the level of the active population necessary for both growth and fiscal strength, countries will have to consider how to encourage migration from beyond the region. This will entail not only labour market policy changes but also social and educational changes to promote integration and understanding among more heterogeneous populations.
- **Increase the pace of reform of pensions and health systems:** Reducing the emphasis on pay-as-you-go systems.
- **Increase retirement age:** This issue is much debated in a number of countries, particularly when it touches public sector employees. A rise in retirement age would reflect the trend of longer life expectancy, extend the labour force and alleviate some of the fiscal burden of pensions. A recent report by the European Commission estimated that a one year increase in the effective retirement age would boost GDP in the EU15 by 1.5% by 2025 and by 2.5% by 2050.
- **Encourage savings and improve understanding of investment alternatives to promote individual responsibility for pension planning.** Provide greater incentives for individuals to build private pension plans.
- **Reforming healthcare:** Place greater emphasis on prevention through new models for health insurance that incentivize prevention and early diagnosis rather than treatments.
- **Retain talent and skilled people in the workforce:** Encourage women and older people to remain in or to re-enter the workplace by providing services such as sufficient and affordable childcare and training programmes.

## Population Increase in Public Spending Related to Ageing, 2000-2050

Old-age pension: Projected increase in age-related public spending



Health, long-term care: Projected increase in age-related public spending



Source: OECD (2005)

## Executive Summary:

### The Skills Gap

#### Risk

- **Lack of skilled and highly trained people**, in particular in the areas of science and technology, will reduce the competitiveness of economies.
- **Rising unemployment** as globalization and technology eases the movement of jobs to economies where greater numbers of skilled people are available at a lower wage cost.

#### Important Trends

- **Highly numerate graduates needed:** Demand is rising for graduates with science, technology, engineering and math skills, while the numbers of students entering these disciplines are falling. These skills are key for a number of industries, from IT and the sciences to banking and construction.
- **Unskilled jobs decrease:** As developed economies focus on growth from services, the number of unskilled jobs will decline in those countries. The number of unskilled jobs in the United Kingdom alone is expected to decline from approximately 3.4 million to 600,000 by 2020.
- **Vocational training lagging:** In many societies, university education is valued more highly than vocational training, with a resulting drop in the numbers entering vocational programmes though the need for these skills is also rising.
- The focus on **technology and innovation** to drive future growth means companies seek those who can combine technical and scientific skills with more generalist skills. Employers are seeking people who can manage staff, client relationships and who are more entrepreneurial.

#### Implications

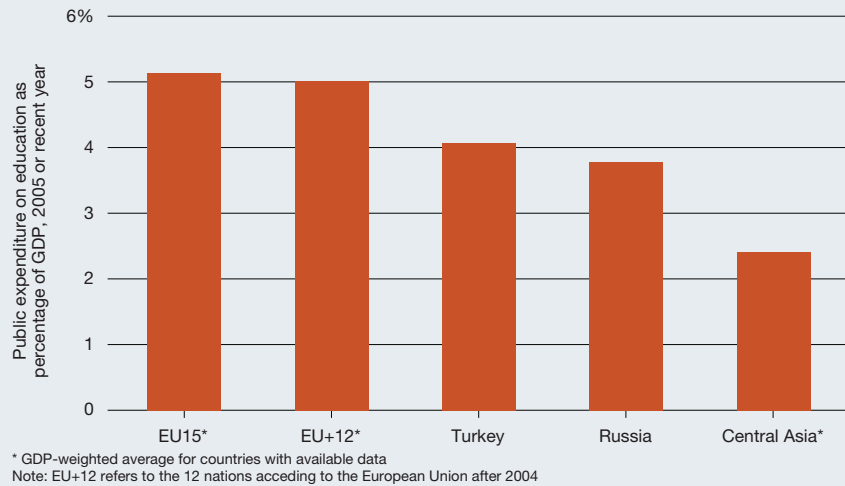
- Countries seeking to diversify their economies will need a strong and diverse skills base to attract investment and compete internationally.
- The focus for many economies lies on strengthening technology and innovation based sectors. A lack of skills in these areas poses a risk to growth.
- It is becoming increasingly urgent to reform education systems and to improve cooperation across borders and between educational institutions and business.

#### Mitigation

- Improve the overall “employability” of graduates and skilled workers by including general competencies as part of their training, e.g. communication skills, teamwork and entrepreneurship, thus responding better to labour market needs.
- Encourage double or joint degrees that allow graduates to combine specializations
- Incentivize **lifelong learning** to build more flexible workforces. Some experts have suggested creating a system that incentivizes shorter periods of study in early careers but then enables people to train and retrain over the course of their career. In the Lisbon Treaty and the Copenhagen process, EU countries are working towards a European Qualifications Framework for lifelong learning
- Promote **vocational training** to young people to achieve better balance among the skills base. Turkey is focusing particularly on this through campaigns targeted at young people and through consultation with business
- Encourage the movement of students to study across borders, at a higher level, as well as at an undergraduate level
- Encourage the **involvement of business** in training and development for its own needs.
- Promote **consultation among industry and educational institutes** to safeguard the latter’s traditional role, while adding aspects that make curricula more relevant to employers’ needs.

## Public Spending on Education

European Union countries tend to invest more in education than their eastern peers, relative to the size of their economies



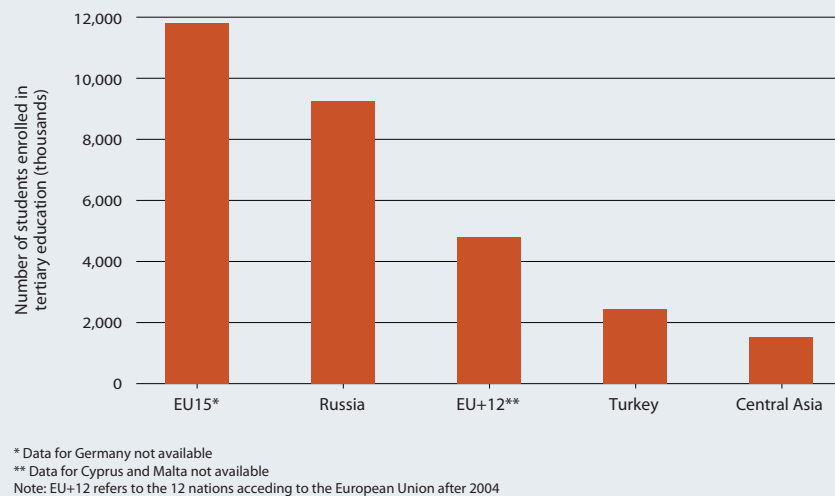
Source: UNESCO; IMF

## Examples

- EU27, as part of the Lisbon Treaty
- Turkey: With high unemployment levels among graduates, the government is trying to encourage more school leavers to enter vocational training in disciplines where skills are lacking.
- Russia: The country has seen the introduction of private business schools, often sponsored by corporates, to improve the employability of engineering or science graduates and promote entrepreneurship.
- United Kingdom: Some companies have joined forces with vocational colleges or universities to allow their staff to gain a formal qualification through in-house corporate training programmes. United Kingdom businesses spend £33 billion per year training their staff, the highest level in the EU, and more than in Japan and the US.

## Enrolment in Tertiary Education

Russia has nearly 10 million students enrolled in tertiary education programmes



Source: UNESCO

# Acknowledgements

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**Selcuk Yorgancioglu**, Executive Director, Abraaj Capital, United Arab Emirates

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